New records of Medeterinae (Diptera, Dolichopodidae) from Turkey, with the description of three new species of Medetera Fischer von Waldheim

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New records of Medeterinae (Diptera, Dolichopodidae) from Turkey, with the description of three new species of *Medetera* Fischer von Waldheim

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Faunistic data is given for 13 species of Medeterinae from Turkey including seven species recorded the first time for Turkey. *Medetera glaucelloides* sp. nov., *M. flavichaeta* sp. nov., and *M. olegi* sp. nov. are described, and differential diagnoses are given.

Keywords: Dolichopodidae, *Medetera*, *Thrypticus*, new records, new species, Turkey.

INTRODUCTION

This is the fifth contribution to the knowledge of the Dolichopodidae of Turkey, treating the Medeterinae. Previous parts treated the Sympycninae (Naglis 2009), Diaphorinae (Naglis 2010), Dolichopodinae (Naglis 2011), and Hydrophorinae (Naglis 2012). Additional papers on the dolichopodid fauna of Turkey were summarized in Naglis (2011, 2012). Since then the following papers have been published: Tonguç & Grootaert (2013), Tonguç et al. (2013). In the present study faunistic data is provided for 13 species of Medeterinae including seven new records and three new species. As a result, 181 species are actually known from Turkey.

The latest comprehensive taxonomic work on the Palearctic Medeterinae is the revision by Negrobov & Stackelberg (1971–77). The genus *Medetera* comprises actually 175 Palearctic species (Naglis unpubl.). Adults are often found on vertical surfaces as tree trunks, walls or rocks, and are predators on small, soft-bodied arthropods as mites, Collembola, Psocoptera, and small Diptera. The larvae live under bark of dead or dying trees and are known as predators of bark beetles. The genus is of considerable importance as an agent of biological control (Bickel 1985). Unlike many other dolichopodid genera, males of *Medetera* have few secondary sexual characters, and therefore preparation and examination of the male genitalia is usually necessary for accurate identification.

MATERIAL AND METHODS

The material for the present study was collected by Wolfgang Schacht (Zoologische Staatssammlung München, ZSM) in the Eastern part of Turkey in 1985. For each species the eastern distribution is given, which means Eastern Europe, the Caucasus, and the Middle East. Distribution data is mainly according to Pollet (2004) and Yang *et al.* (2006), doubtful records are omitted.

Body length is measured from the base of the antennae to the tip of abdominal segment 6; wing length from wing base to wing apex. The positions of features on elongate structures such as leg segments are given as a fraction of the total length, starting from the base. The following ratios are used: relative podomere ratios: femur, tibia, tarsomere 1/2/3/4/5; length of crossvein dm-cu to distal section of CuA (= CuAx ratio); distance between veins R_{2+3} and R_{4+5} to distance between R_{4+5} and M at costal margin (= RMx ratio). In describing the hypopygium, dorsal and ventral refers to the position prior to rotation and flexion, i.e. in figures top is morphologically ventral and bottom is dorsal. If not otherwise indicated, the coloration of hairs and setae is black. Morphological terminology follows McAlpine (1981) except the genitalia terminology, which follows Bickel (1985).

The following abbreviations are used: ad = anterodorsal; av = anteroventral; pd = posterodorsal; pv = posteroventral; MSSC = male secondary sexual character.

DESCRIPTIONS OF NEW SPECIES

Medetera glaucelloides sp. n.

(Figs. 1A–B)

Diagnosis. Antenna dark brown, postocular setae white; face dark brown; 6–7 pairs of dorsocentral setae, anterior setae distinctly shorter than posterior ones; 4 scutellar setae; mid tibia bare; coxae and legs entirely yellow; distal section of vein CuA 1.5 times as long as crossvein dm-cu.

Material examined. **Holotype** ♂: Turkey, Prov. Hakkari, Sat Mountain, Varegös, SW Yüksekova, 700 m, 29.VI.1985, leg. W. Schacht (ZSM).

Description. Body length: 2.0 mm, wing length 2.2 mm.

Head: Frons dark brown, with grey pruinosity; face dark brown, with grey pruinosity along eye margins and above clypeus, narrowest distance between eyes 1.5 times distance between ocellar setae; clypeus dark brown, shining, with grey pruinosity laterally; palpus yellowish, with yellow hairs; proboscis yellowish brown; antenna dark brown; first flagellomere rounded, about as long as high; arista subapical, bare; postocular setae white.

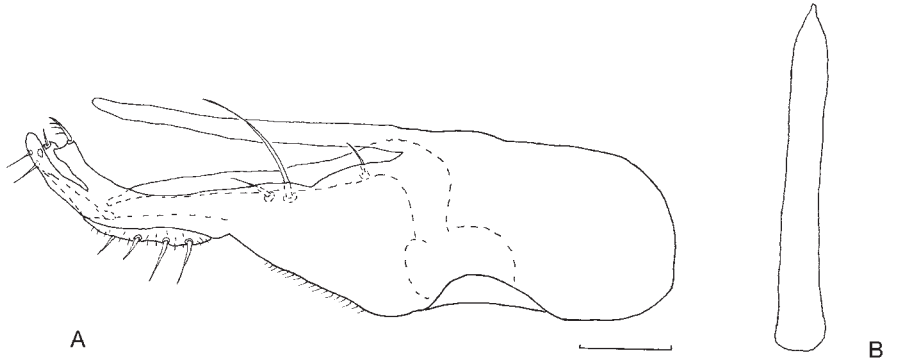

Fig. 1. *Medetera glaucelloides* sp. n. male. A: hypopygium, lateral. — B: hypandrium, ventral. (scale bar = 0.1 mm).

Thorax: Mesonotum dark metallic blue, with violet reflections, and with dense grey pruinosity; thoracic setae brown; 6–7 pairs of dorsocentral setae, anterior setae distinctly shorter; acrostichal setae distinct, consisting of 6–7 pairs; pleura dark brown, with blue and violet reflections, and with grey pruinosity.

Legs: Coxae and legs entirely yellow; hairs and setae white. Fore leg: Coxa with some apical setae; femur, tibia and tarsomeres bare; relative length of femur/tibia and tarsomeres: 48/47:25:10:8:6:5. Mid leg: Coxa with a strong anterolateral seta; femur with short hairs; tibia and tarsomeres bare; relative length of femur/tibia and tarsomeres: 55/57:37:16:11:7:6. Hind leg: Coxa with a strong lateral seta; femur with short hairs; tibia with a dorsal seta at 4/5 which is slightly longer than remaining short setae; tarsomeres bare; relative length of femur/tibia and tarsomeres: 57/73:19:29:16:7:6.

Wing: Hyaline, veins yellow; basal section of M about as long as distal section; CuAx ratio: 0.6; RMx ratio: 3.8; lower calypter whitish, with white setae; halter pale yellow.

Abdomen: Metallic blue with violet reflections, covered with small white hairs, segments 7 and 8 dark brown. Hypopygium (Figs. 1A–B): Epandrium yellowish brown; surstylus and hypandrium yellow; cercus white. Epandrium long and slender; hypandrium (ventral view) relatively narrow and parallel sided, with acute apex; ventral surstylar arm rectangular, with a feathered apical seta; dorsal surstylar arm slender with two subapical setae; cercus with a strong apical spine.

Female: Unknown.

Etymology: The name refers to the close relationship to *Medetera glaucella* Kowarz, 1877.

Remarks: *M. glaucelloides* belongs to the *muralis* species-group, which is defined by the absence of setae on the mid tibia. The new species is close to *M. glaucella* Kowarz, but can be separated by the characters given below.

1. Coxae and legs entirely yellow; wing veins yellow; halter pale yellow . . . . . *M. glaucelloides* sp. n.
— Coxae and legs black; wing veins brownish black; halter with black knob . . . . . *M. glaucella* Kowarz

***Medetera flavichaeta* sp. n.**

(Figs. 2A–B)

Diagnosis. Scape yellow, pedicel brownish yellow, first flagellomere dark brown; face with cupreous shining spot; postocular setae white; thoracic setae yellow; 6 pairs of dorsocentral setae, posterior 2 pairs strong, anterior pairs distinctly smaller; 4 scutellar setae; mid tibia with ad and pd setae; coxae dark, legs mainly yellow; distal section of vein CuA twice as long as crossvein dm-cu.

Material examined. **Holotype** ♂: Turkey, Prov. Kars, Aras valley, W Karakurt, 1300 m, 4.VII.1985, leg. W. Schacht (ZSM). Paratypes: 4 ♂♂, same data as holotype (ZSM).

Description. Body length holotype: 1.9 mm, wing length 2.1 mm.

Head: Frons with dense grey pruinosity; face with dense grey pruinosity, and with a cupreous shining spot at middle, narrowest distance between eyes twice the distance between ocellar setae; clypeus dark brown shining, with grey pruinosity

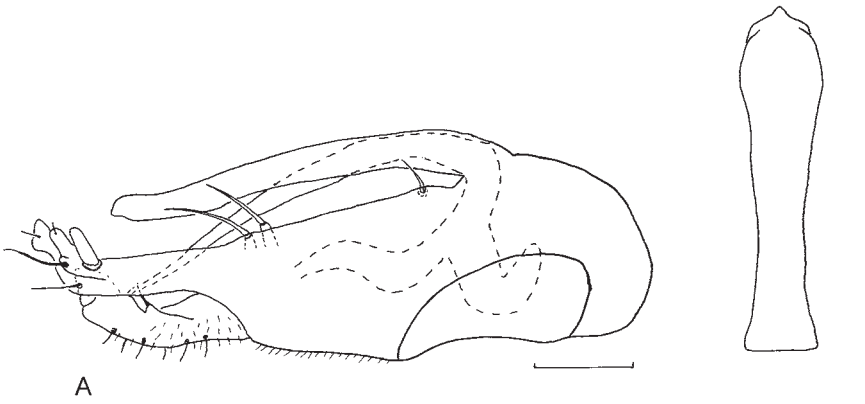

Fig. 2. *Medetera flavichaeta* sp. n. male. A: hypopygium, lateral. — B: hypandrium, ventral. (scale bar = 0.1 mm).

laterally; palpus dark brown with white hairs; proboscis dark brown; antenna: scape pale yellow; pedicel yellowish brown; first flagellomere dark brown, ovate, higher than long; arista subapical, bare; postocular setae white.

Thorax: Mesonotum metallic blue-green, with dense grey pruinosity; thoracic setae yellow to yellowish brown (depending on light reflections); 6 pairs of dorsocentral setae, posterior 2 setae long and strong, anterior 4 setae distinctly smaller; acrostichal setae distinct, consisting of 7–8 pairs, longer than distance between rows; pleura dark brown, with blue and violet reflections, and with grey pruinosity.

Legs: Coxae dark brown; legs yellow, basal 3/4 of femora brownish infuscated; hairs and setae white. Fore leg: Coxa with some apical setae; femur with small av setulae, tibia and tarsomeres bare; relative length of femur/tibia and tarsomeres: 45/44:20:10:7:6:5. Mid leg: Coxa with a strong anterolateral seta; femur with short av setulae; tibia with a small yellow ad and pd seta at 1/3; tarsomeres bare; relative length of femur/tibia and tarsomeres: 50/50:26:13:9:6:5. Hind leg: Coxa with a strong white lateral seta; femur with small av setae and small ad setae on basal half; tibia with a small dorsal seta at 4/5 which is slightly longer than remaining short setae; tarsomeres bare; relative length of femur/tibia and tarsomeres: 50/62:18:22:13:7:6.

Wing: Hyaline, veins yellow; basal section of M distinctly shorter than distal section; CuAx ratio: 0.5; RMx ratio: 5.8; lower calypter whitish, with white setae; halter pale yellow.

Abdomen: Dark metallic green, covered with white hairs, segments 7 and 8 dark brown. Hypopygium (Figs. 2A–B): Epandrium dark brown, surstylus, hypandrium and cercus yellow. Epandrium long and slender; hypandrium (ventral view) broadened in apical third; ventral surstylar arm with horn-like subapical seta; dorsal surstylar arm small, not distinctly separated; cercus with strong seta positioned midventrally, and with an apical projection.

Female: Unknown.

Etymology: The name refers to the yellowish thoracic setae.

Remarks: In the Palearctic key (Negrobov & Stackelberg 1971–77) the new species runs to *M. palmaris* Negrobov, 1974. The two species can be separated by the characters given below.

1. Face with dense grey pruinosity and with a cupreous spot; 2 strong dorsocental setae; hypopgyium: surstylus with horn-like subapical seta; hypandrium in ventral view with broadened apex . . . . . *M. flavichaeta* sp. n.
– Face metallic green shining; 3–4 strong dorsocentral setae; hypopygium: surstylus without horn-like subapical seta; hypandrium in ventral view with tapered apex . . . . . *M. palmaris* Negrobov

***Medetera olegi* sp. n.**

(Figs. 3A–B)

Diagnosis. Antenna dark brown; postocular setae white; face metallic blue-violet shining; 5 pairs of dorsocentral setae, anterior setae distinctly smaller; 4 scutellar setae; mid tibia with ad and pd setae; coxae and legs dark; distal section of vein CuA almost twice as long as crossvein dm-cu.

Material examined. **Holotype** ♂: Turkey, Prov. Hakkari, Sat Mountain, Varegös, SW Yüksekova, 700 m, 29.VI.1985, leg. W. Schacht (ZSM).

Description. Body length holotype: 2.3 mm, wing length 2.6 mm.

Head: Frons metallic blue-green, with dense grey pruinosity; face metallic blue-violet shining, with weak grey pruinosity below antennae and above clypeus, narrowest distance between eyes twice the distance between ocellar setae; clypeus dark brown shining, with blue and violet reflections, and with weak grey pruinosity laterally; palpus dark brown with yellow hairs; proboscis dark brown; antenna entirely dark brown; first flagellomere as long as high, acute apically; arista distinctly subapical, bare; postocular setae white.

Thorax: Mesonotum metallic blue-green, with violet reflections, and with dense grey pruinosity; thoracic setae dark; 5 pairs of dorsocentral setae, anterior setae distinctly smaller; acrostichal setae distinct, consisting of 6–7 pairs, longer than distance between rows; pleura dark, with blue and violet reflections, and with grey pruinosity.

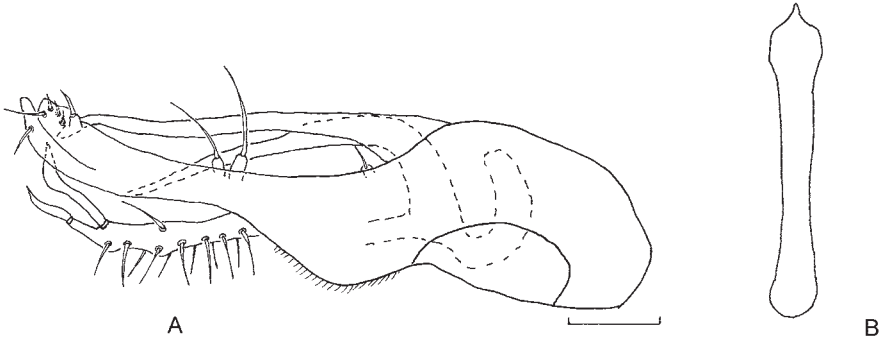

Fig. 3. *Medetera olegi* sp. n. male. A) hypopygium, lateral. — B) hypandrium, ventral. (scale bar = 0.1 mm).

Legs: Coxae and legs dark brown, except knees yellow and basitarsi brownish yellow; hairs and setae whitish yellow. Fore leg: Coxa with few apical setae; femur, tibia and tarsomeres bare; relative length of femur/tibia and tarsomeres: 43/42:22:8:6:4:5. Mid leg: Coxa with a strong anterolateral seta; femur with short av setae; tibia with a small ad and pd seta at 1/4 and some short apical setae; tarsomeres bare; relative length of femur/tibia and tarsomeres: 51/52:30:13:8:5:4. Hind leg: Coxa with a strong lateral seta; femur with small av setae and small ad setae on basal half; tibia with a small dorsal seta at 4/5 which is slightly longer than remaining short setae, and 2–3 apical setae; tarsomeres bare; relative length of femur/tibia and tarsomeres: 48/63:17:23:12:5:4.

Wing: Hyaline, veins brownish-yellow; basal section of M as long as distal section; CuAx ratio: 0.6; RMx ratio: 3.4; lower calypter whitish yellow, with white setae; halter pale yellow.

Abdomen: Dark metallic green, with grey pruinosity, covered with white hairs, segments 7 and 8 dark brown. Hypopygium (Figs. 3A–B): Epandrium dark brown, surstylus, hypandrium and cercus yellow. Epandrium long and slender; hypandrium (ventral view) broadened and almost rectangular in apical fourth, with a short apical tooth; ventral and dorsal surstylar arms distinctly separated; ventral surstylar arm with an apicoventral and an apicodorsal seta, and with 3–4 small apical setulae on median side; dorsal surstylar arm with a single apicodorsal seta; cercus very narrow, with two strong, flattened, blade-like projections: subapical projection twice as long as apical projection.

Female: Unknown.

Etymology: The new species is dedicated to the Russian dipterist Oleg Pavlovich Negrobov.

Remarks: In the Palearctic key (Negrobov & Stackelberg 1971–77) the new species runs to *M. morgei* Negrobov, 1971 and *M. gracilicauda* Parent, 1927. *M. olegi* can be separated by the hypopygial characters given below.

1. Cercus with apical projection which is half as long as subapical projection; surstylus with apicoventral seta of normal shape; hypandrium with apical tooth . . . . . *M. olegi* sp. n.
– Cercus with apical projection which is longer than subapical projection (*M. gracilicauda*), or with apical and subapical projections of same length (*M. morgei*); surstylus with fringed apicoventral seta; hypandrium tapered apically, but without apical tooth . . . . . *M. gracilicauda* Parent and *M. morgei* Negrobov

FAUNISTIC RECORDS

Medetera flavipes Meigen, 1824

Material examined: 1 ♂: Turkey, Province Adiyaman, Celik Lake, 900 m, Gölbasi, 21.VI.1985.

Eastern distribution: Poland, Czech Republic, Ukraine, Turkey.

Remarks: Recorded from Turkey by Grichanov et al. (2007).

***Medetera lamprostomoides* Negrobov, 1974**

Material examined: 4 ♂♂: Turkey, Province Agri, Mt. Ararat, South, 1700 m, 3.VII.1985. 2 ♂♂: Turkey, Province Kars, Aras valley, W. Karakurt, 1300 m, 4.VII.1985.

Eastern distribution: Russia, Kazakhstan.

Remarks: New record for Turkey.

***Medetera meridionalis* Negrobov, 1967**

Material examined: 1 ♂: Turkey, Province Kars, Aras valley, W. Karakurt, 1300 m, 4.VII.1985.

Eastern distribution: Russia, Ukraine, Armenia, Azerbaijan, Georgia, Kazakhstan.

Remarks: *M. meridionalis* was synonymised with *M. jacula* (Fallén, 1823) by Grichanov (2002). Negrobov (2010) removed *M. meridionalis* from synonymy and provided diagnostic characters for the separation of the two species. New record for Turkey.

***Medetera mixta* Negrobov, 1967**

Material examined: 3♂♂: Turkey, Province Kars, Aras valley, W. Karakurt, 1300 m, 4.VII.1985. 1 ♂: Turkey, Province Agri, Mt. Ararat, South, 1700 m, 3.VII.1985.

Eastern distribution: Bulgaria, Czech Republic, Slovakia, Romania, Russia, Ukraine, Kazakhstan, Kirgizia, Tajikistan, Mongolia.

Remarks: New record for Turkey.

***Medetera pallipes* (Zetterstedt, 1843)**

Material examined: 2 ♂♂: Turkey, Province Kars, Aras valley, W. Karakurt, 1300 m, 4.VII.1985. 1 ♂: Turkey, Province Hakkari, Sat Mountain, Varegös, SW Yüksekova, 700 m, 29.VI.1985.

Eastern distribution: Poland, Romania, Czech Republic, Slovakia, Hungary, Estonia, Russia, Ukraine, Turkey.

Remarks: Recorded from Turkey by Tonguç *et al.* (2009).

***Medetera plumbella* Meigen, 1824**

Material examined: 7 ♂♂: Turkey, Province Kars, Aras valley, W. Karakurt, 1300 m, 4.VII.1985.

Eastern distribution: Poland, Hungary, Czech Republic, Slovakia, Estonia, Russia, Ukraine.

Remarks: New record for Turkey.

***Medetera thunebergi* Negrobov, 1967**

Material examined: 2 ♂♂: Turkey, Province Kars, Aras valley, W. Karakurt, 1300 m, 4.VII.1985.

Eastern distribution: Russia, Ukraine.

Remarks: *M. thunebergi* was synonymised with *M. excellens* Frey, 1909 by Grichanov (2002). This synonymy was questioned by Pollet (2004). I here follow Pollet's opinion since there are distinct differences in the structure of the male aedeagus. New record for Turkey.

Medetera verae Negrobov, 1967

Material examined: 4 ♂♂: Turkey, Province Agri, Mt. Ararat, South, 1700 m, 3.VII.1985.

Eastern distribution: Armenia.

Remarks: New record for Turkey.

Thrypticus bellus Loew, 1869

Material examined: 5 ♂♂: Turkey, Province Erzurum, W. Oltu, 2200 m, 6.VII.1985. 3 ♂♂: Turkey, Province Kars, Aras valley, W. Karakurt, 1300 m, 4.VII.1985.

Eastern distribution: Bulgaria, Poland, Romania, Czech Republic, Slovakia, Hungary, Russia, Ukraine, Turkey, Kazakhstan.

Remarks: Recorded from Turkey by Grichanov *et al*. (2007).

Thrypticus intercedens Negrobov, 1967

Material examined: 2 ♂♂: Turkey, Province Hakkari, S Yüksekova, 28.VI.1985.

Eastern distribution: Russia.

Remarks: New record for Turkey.

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